west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-1341I
Plant ID No.:	099-00031
Applicant:	LDH Energy Cyrus River Terminal LLC
Facility Name:	Kenova
Location:	Wayne County
SIC Code:	1221
Application Type:	Modification
Received Date:	November 13, 2009
Engineer Assigned:	Dan Roberts
Re-assigned Date:	***March 04, 2010***
Engineer Re-assigned:	***Thornton E. Martin Jr.***
Fee Amount:	$2,000
Date Received:	November 17, 2009
Complete Date:	March 22, 2010
Applicant Ad Date:	November 19, 2009
Newspaper:	*Wayne County News*
UTM's:	Easting: 362.6 km Northing: 4240.4 km Zone: 17
Description:	This modification is to delete the rotary dump, synfuel plant #1 and synfuel plant #2 along with all related equipment. Due to the enormous amount of equipment deleted and proposed changes in the storage areas, the existing equipment designation and stockpiles have been re-identified for continuous flow and easier understanding. There is no new equipment proposed.

DESCRIPTION OF PROCESS

Material will be delivered to the various stockpile areas at the facility by 18-wheel trucks @ TP-01 (UL-MDH) and by the barge off-load system. Coal and miscellaneous materials received by

the barge will be off-loaded by excavator to bin BS-01 (PW) @ TP-02 (UD-PW) and transferred to the stockpile areas via belt conveyors BC-01 (PE), BC-02 (PE) and BC-03 (PE) @ TP-03 (TC-FE) thru TP-07 (TC-MDH).

Coal to be crushed or screened is fed by front-end loader to BS-02 (PW) @ TP-08 (UD-PW); to belt conveyor BC-04 (PE) @ TP-09 (TC-FW); to crusher CR-01 (FW) @ TP-10 (TC-FE); to belt conveyor BC-05 (PE) @ TP-11 (TC-FW); and to screens SS-01 (FW) and SS-02 (FW) @ TP-12 (TC-FE) and TP-18 (TC-FE). Coal from screen SS-01 can be discharged to belt BC-06 (PE) and carried to stockpile OS-01 via belt conveyor BC-07 (PE) @ TP-13 (TC-FW) thru TP-15 (TC-MDH) or coal from screen SS-01 can be discharged to belt conveyor BC-08 (PE) @ TP-16 (TC-FW) and carried to OS-01 via belt conveyors BC-10 (PE) thru BC-12 (PE) @ TP-21 (TC-FE) thru TP-23 (TC-MDH). Coal from screen SS-02 (FW) is discharged to belt BC-09 (PE) @ TP-19 (TC-FW) and transferred to belt conveyor BC-10 @ TP-20 (TC-FE) for stockpile delivery.

Coal or miscellaneous materials to be sent out will be loaded onto truck @ TP-24 (LO-MDH). Material for the barge loadout is either loader or dozer pushed and reclaimed under the pile to BC-13 (FE) @ TP-25 (LO-UC); sent to screen SS-03 (FW) @ TP-26 (TC-FW); to crusher CR-02 (FW) @ TP-27 (TC-FW); or onto belt conveyor BC-14 (PE) @ TP-28 (TC-FW). Screen SS-03 can also transfer directly onto belt BC-14 @ TP-29 (TC-FW). Coal is then transferred from belt conveyor BC-14 to belt conveyor BC-15 (PE) @ TP-30 (TC-FW) for delivery to the barge @ TP-31 (LO-TC).

There are no VOC's or HAP's associated with the Cyrus River Terminal..

The facility shall be constructed and operated in accordance with the following equipment and control device information:

Equip-ment ID No.	AMR[1]	Year	Description	Maximum Rated Throughput		Control Equip-ment[2]	Associated Transfer Points		
				TPH	TPY x 10 [3]		Location: B -Before A -After	ID. No.	Control Equip-ment[2]
Off-Load Circuit									
OS-01	M	2009	700,000 Ton - Open Coal Storage and Loadout Stockpile receives coal from trucks or barge via BC-03 and loadsout to truck or underbin conveyor	----	8,559	SW-WS	B B A A	TP-01 TP-07 TP-24 TP-25	UL-MDH TC-MDH LO-MDH LO-UC
OS-03	M	2009	71,000 Ton - Open Coal Storage and Loadout Stockpile receives coal from trucks or barge via BC-03 and loadsout to truck or underbin conveyor	----	868	SW-WS	B B A A	TP-01 TP-07 TP-24 TP-25	UL-MDH TC-MDH LO-MDH LO-UC
OS-04	M	2009	161,000 Ton - Open Coal Storage and Loadout Stockpile receives coal from trucks or barge via BC-03 and loadsout to truck or underbin conveyor	----	1,969	SW-WS	B B A A	TP-01 TP-07 TP-24 TP-25	UL-MDH TC-MDH LO-MDH LO-UC
OS-05	M	2009	17,000 Ton - Open Coal Storage and Loadout Stockpile receives coal from trucks or barge via BC-03 and loadsout to truck or underbin conveyor	----	208	SW-WS	B B A A	TP-01 TP-07 TP-24 TP-25	UL-MDH TC-MDH LO-MDH LO-UC
OS-06	M	2009	32,000 Ton - Open Coal Storage and Loadout Stockpile receives coal from trucks or barge via BC-03 and loadsout to truck or underbin conveyor	----	391	SW-WS	B B A A	TP-01 TP-07 TP-24 TP-25	UL-MDH TC-MDH LO-MDH LO-UC

Equip-ment ID No.	AMR[1]	Year	Description	Maximum Rated Throughput		Control Equip-ment[2]	Associated Transfer Points		
				TPH	TPY x 10^3		Location: B -Before A -After	ID. No.	Control Equip-ment[2]
OS-07	M	2009	22,000 Ton - Open Coal Storage and Loadout Stockpile receives coal from trucks or barge via BC-03 and loadsout to truck or underbin conveyor	----	269	SW-WS	B B A A	TP-01 TP-07 TP-24 TP-25	UL-MDH TC-MDH LO-MDH LO-UC
OS-02	M	2009	10,000 Ton - Open Miscellaneous Materials Storage and Loadout Stockpile receives miscellaneous materials from trucks or barge via BC-03 and loadsout to truck or underbin conveyor	----	2,000	SW-WS	B B A A	TP-24 TP-07 TP-24 TP-25	LO-MDH TC-MDH LO-MDH LO-UC
BS-01	M	2009	50 Ton Collection Bin for barge off-load - Coal/Coke/Stone/Magnetite/Salt/Misc.	1,000	8,760	PW	B A	TP-02 TP-03	UD-PW TC-FE
BC-01	M	2009	48"X275' Belt Conveyor for barge off-load - Coal/Coke/Stone/Magnetite/Salt/Misc transfers material from BS-01 to BC-02	1,000	8,760	PE	B A	TP-03 TP-04	TC-FE TC-FE
BC-02	M	2009	48"X55' Belt Conveyor for barge off-load - Coal/Coke/Stone/Magnetite/Salt/Misc transfers material from BC-01 to BC-03	1,000	8,760	PE	B A	TP-04 TP-05	TC-FE TC-FE
BC-03	M	2009	48"X100' Belt Conveyor for barge off-load - Coal/Coke/Stone/Magnetite/Salt/Misc transfers material from BC-02 to OS-01 thru OS-07	1,000	8,760	PE	B A	TP-05 TP-06	TC-FE TC-MDH
Coal Processing Circuit									
BS-02	M	2009	60 Ton Feed Bin for Coal - receives coal from front-end loader and transfers to BC-04	1,000	8,760	PW	B A	TP-08 TP-09	UD-PW TC-FW
BC-04	M	2009	Coal Transfer Belt Conveyor receives coal from BS-02 and transfers to crusher CR-01	1,000	8,760	PE	B A	TP-09 TP-10	FE PE
CR-01	M	2009	Jeffery Double Roll Crusher - receives coal from BC-04, crushes and discharges onto BC-05	1,000	8,760	FW	B A	TP-10 TP-11	PE PE
BC-05	M	2009	Coal Transfer Belt Conveyor receives coal from CR-01 and transfers to screen SS-01	1,000	8,760	PE	B A	TP-11 TP-12	PE PE
SS-01	M	2009	Double Deck Screen receives coal from BC-05 and can discharge to belt BC-08 or to BC-06 for transfer to open stockpile storage	500	4,380	FW	B A A	TP-18 TP-13 TP-16	TC-FE TC-FW TC-FW
BC-06	M	2009	Coal Transfer Belt Conveyor receives coal from SS-01 and transfers to belt conveyor BC-07	500	4,380	PE	B A	TP-13 TP-14	TC-FW TC-FE
BC-07	M	2009	Coal Transfer Belt Conveyor receives coal from BC-06 and transfers to open stockpile storage	500	4,380	PE	B A	TP-14 TP-15	TC-FE TC-MDH
BC-08	M	2009	Coal Transfer Belt Conveyor receives coal from SS-01 and transfers to belt conveyor BC-10	500	4,380	PE	B A	TP-16 TP-17	TC-FW TC-FE
SS-02	M	2009	Double Deck Screen receives coal from SS-01 and discharges to belt BC-09 for transfer to open stockpile storage	500	4,380	FW	B A	TP-18 TP-19	TC-FE TC-FE
BC-09	M	2009	Coal Transfer Belt Conveyor receives coal from SS-02 and transfers to belt conveyor BC-10	500	4,380	PE	B A	TP-19 TP-20	TC-FW TC-FE
BC-10	M	2009	Coal Transfer Belt Conveyor receives coal from BC-09 and transfers to belt conveyor BC-11	1,000	8,760	PE	B B A	TP-17 TP-20 TP-21	TC-FE TC-FE TC-FE
BC-11	M	2009	Coal Transfer Belt Conveyor receives coal from BC-10 and transfers to belt conveyor BC-12	1,000	8,760	PE	B A	TP-21 TP-22	TC-FE TC-FE
BC-12	M	2009	Coal Transfer Belt Conveyor receives coal from BC-11 and transfers to open stockpile storage	1,000	8,760	PE	B A	TP-22 TP-23	TC-FE TC-MDH

Equip-ment ID No.	AMR[1]	Year	Description	Maximum Rated Throughput		Control Equip-ment[2]	Associated Transfer Points		
				TPH	TPY x 10 [3]		Location: B -Before A -After	ID. No.	Control Equip-ment[2]
Loadout Circuit									
BC-13	M	2009	60"X638' Belt Conveyor for barge off-load - Coal/Coke/Stone/Magnetite/Salt/Misc receives material from OS-01 thru OS-07 via front-end loader to two (2) 60"X96" underground feeders and transfers to SS-03 or CR-02 or BC-14	2,500	14,264	FE	B A	TP-25 TP-26	LO-UC TC-FW
SS-03	M	2009	Double Deck Screen receives coal or miscellaneous materials from BC-13 and can discharge to belt BC-14 or to CR-02	2,500	14,264	FW	B A A	TP-26 TP-27 TP-29	TC-FW TC-FW TC-FW
CR-02	M	2009	Hammermill Crusher - receives coal from SS-03, crushes and discharges onto BC-14	2,500	14,264	FW	B A	TP-27 TP-28	TC-FW TC-FW
BC-14	M	2009	60"X43' Belt Conveyor for barge off-load - Coal/Coke/Stone/Magnetite/Salt/Misc receives material from SS-03 or BC-13 or CR-02 and transfers to BC-15	2,500	14,264	PE	B B B B A	TP-26 TP-27 TP-28 TP-29 TP-30	TC-FW TC-FW TC-FW TC-FW TC-FW
BC-15	M	2009	60"X125' Belt Conveyor for barge off-load - Coal/Coke/Stone/Magnetite/Salt/Misc receives material from BC-14 and transfers to barge via telescopic chute	2,500	14,264	PE	B A	TP-30 TP-31	TC-FW LO-TC

[1] A - Addition; M - Modification; R - Removal (Existing unmodified equipment to be included in the permit is labeled with an M.)

[2] FE - Full Enclosure; PE - Partial Enclosure; FW - Full Enclosure w/water sprays; PW - Partial Enclosure w/water sprays; WS - Water Sprays; N - None; LO - Loadout; UC - Underbin Conveyor; TC-FE - Transfer Point Fully Enclosed; TC-FW - Transfer Point Fully Enclosed w/water sprays; MDH - Minimum Drop Height

[3] Value X 1,000

INSTALLATION AND STARTUP SCHEDULE

There is no new equipment proposed. Various pieces of equipment have been removed and the remaining equipment has new designations. The facility is currently operating normally.

DESCRIPTION OF FUGITIVE EMISSIONS

Potential sources of fugitive particulate emissions for this facility include emissions that are not captured by pollution control equipment, emissions from open stockpiles and vehicular traffic on paved and unpaved haulroads and work areas. The haulroads, stockpiles and work areas will be controlled by fixed rainbird water sprays and by water truck. A system of timer-controlled rainbirds will be added to all stockpile areas to control fugitive emissions. The water truck will be operated on a regular basis, depending on weather conditions and the operating schedule for the facility.

All belt conveyors are at least partially enclosed and equipment transfer points are fully enclosed. Water sprays are located at various transfer points throughout the facility to be used on an as needed basis.

A truck wheel wash is located prior to the property exit to prevent the tracking of materials onto the adjacent highway.

An additive to prevent freezing will be utilized in the winter months when freezing conditions are present, but in keeping with MSHA Safety Standards.

SITE INSPECTION

The writer visited the site on March 19, 2010 and observed the existing equipment, stockpiles, processes and operation. There is no new equipment proposed. Various pieces of equipment have been removed and the remaining equipment has new designations. The facility is currently operating normally.

Directions to the LDH Energy Cyrus River Terminal are as follows: Take Rt. 52 to Big Sandy River Road at the intersection of White's Creek Road near Cyrus, WV.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive emission calculations for continuous and batch drop operations, transfer points, storage piles and unpaved haulroads are based on AP-42 "Compilation of Air Pollution Emission Factors." Control efficiencies were applied based on "Calculation of Particulate Matter Emission - Coal Preparation Plants and Material Handling Operations." The estimated emission calculations were performed by the applicant's consultant and were checked for accuracy and completeness by the writer.

The proposed modification will result in an estimated potential to discharge controlled PM emissions (not including fugitive emissions) of 50.56 pounds per hour and 162.70 TPY of particulate matter. This represents an increase in baseline emissions of 30.58 TPY. LDH Energy Cyrus River Terminal LLC's proposed modification will result in the following estimated potential to discharge controlled PM emissions:

Emissions Summary - ***LDH Energy Cyrus River Terminal LLC R13-1341I***	**Proposed Controlled PM Emissions**		**Previous Controlled PM Emissions**		**Change in Controlled PM Emissions**	
	lb/hour	TPY	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions						
Stockpile Emissions	2.99	13.10	1.88	8.22	+1.11	+4.88
Unpaved Haulroad Emissions	42.78	187.37	167.61	735.00	-124.83	-547.63
Paved Haulroad Emissions	94.64	414.53	50.19	220.09	+44.45	+194.44
Fugitive Emissions Total	*140.41*	*615.00*	*219.67*	*963.31*	*-79.26*	*-348.31*
Point Source Emissions						
Equipment Emissions	42.00	131.01	30.00	85.50	+12.00	+45.51
Transfer Point Emissions	8.56	31.72	12.80	46.57	-4.24	-14.85
Point Source Emissions Total (PTE)	*50.56*	*162.73*	*42.80*	*132.15*	*+7.76*	*+30.58*
FACILITY EMISSIONS TOTAL	**190.97**	**777.73**	**262.47**	**1,095.46**	**-71.50**	**-317.73**

The proposed modification will result in an estimated potential to discharge controlled PM_{10} emissions (not including fugitive emissions) of 23.79 pounds per hour and 76.58 TPY of particulate matter. LDH Energy Cyrus River Terminal LLC's proposed modification will result in the following estimated potential to discharge controlled PM_{10} emissions:

Emissions Summary - ***LDH Energy Cyrus River Terminal LLC R13-1341I***	**Proposed Controlled PM_{10} Emissions**		**Previous Controlled PM_{10} Emissions**		**Change in Controlled PM_{10} Emissions**	
	lb/hour	TPY	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions						
Stockpile Emissions	1.41	6.15	0.88	3.86	+0.53	+2.29
Unpaved Haulroad Emissions	12.63	55.31	75.42	330.75	-62.79	-275.44
Paved Haulroad Emissions	18.46	80.86	23.59	103.44	-5.13	-22.58
Fugitive Emissions Total	*32.49*	*142.32*	*99.89*	*438.05*	*-67.40*	*-295.73*
Point Source Emissions						
Equipment Emissions	19.74	61.58	14.10	40.22	+5.64	+21.36
Transfer Point Emissions	4.05	15.00	6.05	22.03	-2.00	-7.03
Point Source Emissions Total (PTE)	*23.79*	*76.58*	*20.15*	*62.25*	*+3.64*	*+14.33*
FACILITY EMISSIONS TOTAL	**56.28**	**218.90**	**120.05**	**500.30**	**-63.77**	**-281.4**

REGULATORY APPLICABILITY

NESHAPS and PSD have no applicability to the proposed facility. The proposed construction of Phase I is subject to the following state and federal rules:

45CSR5 To Prevent and Control Air Pollution from the Operation of Coal Preparation Plants and Coal Handling Operations

The facility is subject to the requirements of 45CSR5 because it meets the definition of "Wet wash coal preparation plant" found in subsection 45CSR5.2.4. The facility should be in compliance with Section 3 (less than 20% opacity) and Section 6 (fugitive dust control system and dust control of the premises and access roads) when the particulate matter control methods and devices proposed within application R13-1341I and any amendments thereto are in operation.

45CSR7 - To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations

The facility is subject to the requirements of 45CSR7 because it meets the definition of "Manufacturing Process" found in subsection 45CSR7.2.20. The facility should be in compliance with Subsection 3.1 (no greater than 20% opacity), Subsection 3.7 (no visible emissions from any storage structure pursuant to subsection 5.1 which is required to have a full enclosure and be equipped with a control device), Subsection 4.1 (PM emissions shall not exceed those allowed under Table 45-7A), Subsection 5.1 (manufacturing process and storage structures must be equipped with a system to minimize emissions), Subsection 5.2 (minimize PM emissions from haulroads and plant premises) when the particulate matter control methods and devices proposed within application R13-

1341I are in operation. According to Table 45-7A, for a type 'b' source with a maximum process weight rate of 2,000,000 lb/hour, the maximum allowable emission rate is 176 lb/hour of particulate matter. The maximum allowable emission rate is 50.56 lb/hour of particulate matter according to calculated emissions in fact sheet R13-1341I.

45CSR13 Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation

The proposed modification is subject to the requirements of 45CSR13 because it will result in an increase in potential to discharge controlled emissions greater than six (6) pounds per hour and ten (10) tons per year, and 144 pounds per day of a regulated air pollutant (PM and PM_{10}). The applicant submitted the proper $1000 application fee and $1,000 NSPS fee and published a Class I legal advertisement in the *Wayne County News* on November 19, 2009.

45CSR16 Standards of Performance for New Stationary Sources

40 CFR 60 Subpart Y: Standards of Performance for Coal Preparation Plants

The proposed modification is subject to 40 CFR 60 Subpart Y because it was constructed after October 24, 1974 and will process more than 200 tons of coal per day. Therefore, the proposed modification is subject to 45CSR16, which incorporates by reference 40 CFR 60 Subpart Y - Standards of Performance for Coal Preparation Plants. The facility should be in compliance with Section 254(a) (less than 20% opacity for coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, re-constructed or modified on or before April 28, 2008) and Section 254(b) (less than 10% opacity for coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal constructed, re-constructed or modified after April 28, 2008) when the particulate matter control methods and devices proposed are in operation..

45CSR30 Requirements for Operating Permits

The facility's potential to emit will be 76.58 TPY of a regulated air pollutant (PM_{10}), not including fugitive emissions, which is less than the 45CSR30 threshold of 100 TPY for a major source. However, the facility is subject to 40 CFR 60 Subpart Y. Therefore, the facility is still subject to 45CSR30 and remains classified as a Title V deferred non-major source.

The proposed modification will <u>not</u> be subject to the following state and federal rules:

45CSR14 Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration

In accordance with 45CSR14 Major Source Determination, the proposed coal handling and truck loadout facility is not listed in Table 1. The facility will have the potential to emit 162.73 TPY of a regulated air pollutant (PM), not including fugitive emissions, which is less than the 45CSR14 threshold of 250 TPY. In accordance with subsection 2.4.3.d, this facility is not listed in Table 1,

and so fugitive emissions are not included when determining source applicability. Therefore, the proposed modifications are not subject to the requirements set forth within 45CSR14.

45CSR19 Requirements for Pre-Construction Review, Determination of Emission Offsets for Proposed New or Modified Stationary Sources of Air Pollutants and Emission Trading for Intrasource Pollutants

This existing facility is located in Wayne County, WV, which currently has a status of non-attainment for $PM_{2.5}$ (particulate matter less than 2.5 microns in diameter). In accordance with Subsection 2.35.e, this facility is not a listed facility which must include fugitive emissions when determining if it is a major stationary source. This facility is an existing minor source with a potential to emit greater than 100 TPY of a regulated pollutant, not including fugitive emissions, however, the proposed increase in their potential to emit is less than 100 TPY, not including fugitive emissions. Therefore, the proposed modification does not trigger Major Non-Attainment NSR Review. This facility will continue to be a minor source.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

A toxicity analysis was not performed because the pollutants being emitted from this facility are PM (particulate matter) and PM_{10} (particulate matter less than 10 microns in diameter), which are non-toxic pollutants.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and location of this facility and the extent of the proposed modifications. This facility is located in Wayne County, WV, which currently has a status of non-attainment for $PM_{2.5}$ (particulate matter less than 2.5 microns in diameter). However, in accordance with 45CSR19, this facility will continue to be a minor source.

MONITORING OF OPERATIONS

For the purposes of determining compliance with maximum throughput limits, the applicant shall maintain certified daily and monthly records. An example form is included as Appendix A to Permit R13-1341I. An example form for tracking the amount of water applied through the water truck is included as Appendix B to Permit R13-1341I. An example form for the Monthly Opacity Testing is included as Appendix C to Permit R13-1341I. The Certification Of Data Accuracy statement shall be completed within fifteen (15) days of the end of the reporting period. These records shall be maintained on site by the permittee for at least five (5) years and shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

RECOMMENDATION TO DIRECTOR

The information contained in this modification permit application indicates that compliance with all applicable regulations should be achieved when all of the proposed particulate matter control methods are in operation. Due to the location, nature of the process, and control methods proposed, adverse impacts on the surrounding area should be minimized. No public comments were received. Therefore, the granting of a permit to LDH Energy Cyrus River Terminal LLC for the modification of their facility located in Cyrus, Wayne County, WV is hereby recommended.

Thornton E. Martin Jr.,
Permit Engineer

March 22, 2010
Date